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
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,064	04/30/2001	Hideya Kawahara	SUN1P818/P5682	4509
22434	7590	05/28/2004	EXAMINER	
BEYER WEAVER & THOMAS LLP			BANANKIAH, MAJID A	
P.O. BOX 778			ART UNIT	
BERKELEY, CA 94704-0778			PAPER NUMBER	

2127

DATE MAILED: 05/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/846,064	Applicant(s) KAWAHARA ET AL. 	
	Examiner Majid A Banankhah	Art Unit 2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04-30-01.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to application filed on April 30, 2001. Claims 1-20 are considered for examination.

Claim Rejections - 35 USC § 103

2. Following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-10, 12-14, and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kutcher et al. (U.S. Pat. No. 6,711,739, hereinafter Kutcher).

Per claims 1, 15 and 19-20, a method of forcibly terminating a thread in a computer language execution environment comprising (U.S. Pat. No. 6,711,739):

a first thread receiving a terminate thread command, the first thread having an associated termination flag (col. 1, lines 46-57, also col. 5, lines 21-30);

setting the state for the first thread (col. 3, lines 25-39, checking the target variable);

propagating an exception in the execution environment thereby indicating termination of the first thread (col. 5, lines 6-29, immediately causes an exception and terminate thread's execution);

ignoring at least one exception handler and a finally clause of the first thread (col. 5, lines 44-68,

run method executes to completion and exits normally, also the target variable can be set by other threads or by the run() method itself to indicate that the thread should be stopped) and

exiting one or more monitors associated with the first thread (col. 5, lines 44-68, If the target

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variable is set to indicate that the thread should be stopped the thread branches to point A, where it completes execution and exits normally).

The reference of Kutcher while teaches of termination flag (checking target variable) fails teach of, a value of the termination flag being immutable once set. However, it is well known in the art that a flag is a signal indicating the existence or status of a particular condition. Since Kutcher teaches of setting a target variable in the class to indicate that the thread should be stopped, and then periodically checking the target variable to determine whether or not it should stopped. Therefore, it would it would have been obvious for one ordinary skill in the art at the time the invention was made to make the status variable immutable in order to be able to check its status periodically, for the reason to be able to check it and not generating the status variable over time periods and increase efficiency.

Per claim 2, a method as recited in claim 1 further comprising initiating a termination procedure to cleanly terminate the first thread. The reference of Kutcher teaches of terminating the thread in col. 3, lines 40-51.

Per claim 3, a method as recited in claim 1 wherein receiving a terminate thread command further comprises a second thread issuing the termination thread command. A thread is performing the stop method of Kutcher (col. 5, lines 6-30).

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Per claim 4, a method as recited in claim 1 further comprising determining whether the first thread is in a blocking operation. In the system of Kutcher, the state of the thread is checked by the status variable and that include blocking states as well (See, col. 3, lines 25-50).

Per claim 5, a method as recited in claim 1, further comprising determining whether a first computer code is part of a user-defined program to be terminated, the threads in the system of Kutcher are part of the program instruction defined by a user or programmer (col. 1, lines 12-24).

Per claims 6 and 16, a method as recited in claim 1 further comprising:
associating the one or more monitors locked in the first thread with an execution frame in which the one or more monitors are locked (col. 5, lines 6-30); and
exiting the associated one or more monitors when leaving the execution frame (col. 5, lines 6-30, The thread will also unlock all of the monitors which had been locked).

Per claims 7 and 17, a method as recited in claim 1 further comprising interrupting a monitor lock operation if the monitor lock operation is initiated by a user defined program, the user defined program to be terminated when thread termination is requested. See the rejection of claim 5, and 6 combined. Regarding the interrupt monitor program see col. 3, lines 40-50 (preemption method).

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Per claim 8, a method as recited in claim 1 wherein the computer language execution environment is the Java programming language execution environment (see Kutcher, col. 1, lines 12-24, Java...).

Per claim 9, a method as recited in claim 1 wherein the first thread has an associated termination flag indicator containing an immutable value and an execution field containing a mutable value (see col. 3, lines 26-39).

Per claim 10, a method as recited in claim 1 wherein the terminate thread command is a modified thread stop command in the Java programming language execution environment (col. 2, lines 21-37).

Per claim 12. A method as recited in claim 1 wherein the first thread is cleanly and forcibly terminated in an interpreter loop (see Kutcher, col. 7, lines 18-34, gracefully handles stopping a thread without exception handling).

Per claim 13, a method as recited in claim 12 wherein the interpreter loop is a component of the Java Virtual Machine (col. 2, lines 40-62).

Per claims 14 and 18, a method as recited in claim 1 further comprising determining whether the first thread entered a monitor and whether the first thread has successfully exited the monitor thereby determining whether the first thread has terminated cleanly (col. 7, lines 18-34).

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4. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kutcher et al. (U.S.Pat. No. 6,711,739, hereinafter Kutcher) in view of Nilsen et al (U.S.Pat. No. 6,081,665, hereinafter Nilsen).

The reference of Kutcher fails to teach of claim 11, checking a priority of the first thread and, if desired, raising the priority of the thread to avoid delay in terminating the first thread. However, changing priority of a thread or task when there is an urgency is well known in the art as it is evidenced by Nilsen (see Nilsen col. 35, lines 28-53, the urgency of the locking task is increased when a high priority task needs to get out), for the reason to avoid high priority task does not wait for a long time. Therefore, it would have been obvious a person ordinary skill in the art at the time the invention was made to increase the priority of a thread to avoid delay. One ordinary skill in the art would be motivated to do so in order to increase efficiency.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Majid A. Banankhah** whose voice telephone number is (703) 308-6903. A voice mail service is also available at this number.

All response sent to U.S. Mail should be mailed to:

Commissioner of Patent and Trademarks

Washington, D.C. 20231

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Hand-delivered responses should be brought to Crystal Park Two, 2021 Crystal Drive, Arlington, VA, Six Floor (Receptionist). All hand-delivered responses will be handled and entered by the docketing personnel. Please do not hand deliver responses to the Examiner.

All Formal or Official Faxes must be signed and sent to either (703) 308-9051 or (703) 308-9052. Official faxes will be handled and entered by the docketing personnel. The date of entry will correspond to the actual FAX reception date unless that date is a Saturday, Sunday, or a Federal Holiday within the District of Columbia, in which case the official date of receipt will be the next business day. The application file will be promptly forwarded to the Examiner unless the application file must be sent to another area of the office, e.g., Finance Division for fee charging, etc.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is **(703) 305-9600**.

Maid Banankhah

5/24/04


MAID BANANKHAH
PRIMARY EXAMINER